Big Data Engineering Term Project

A team of 3 - 4 students should be formed to develop a data warehouse term project.

Project phases:

Phase 1: Star/Snowflake Schema

In the first phase of the project you have to:

- Choose a business area in the adventure-work database such as (Production, Human resource…..etc.) or the Northwind database.
- You have to design a star schema for the business area you choose.
- Define the dimensions, dimension levels, fact table, and measures you will include in your star or snowflake schema.
- **Minimum number of dimensions is 4 and minimum number of measures is 3.**

NOTE: ANY SCHEMA MADE FROM ADVENTURE WORKS OR NORTHWIND AS THE LAB EXAMPLE WILL BE GRADED ZERO

Databases:

- AdventureWorks Database Drive Link: AdventureWorks2008 Database
- Northwind Database Drive Link: Northwind Database

Phase Deliverables:

a. Cover Page contains the following (DB Source Name, Business Area, Team members names)
b. Business Goals
c. Source ERD (interested tables)
d. Star Schema (Dimensional model)
e. Schema Description (Dimensions, Dimension Levels, and Measures)

Important Notes:

****Phase 1 Delivery in the week starting 9 March in your lab.**

- No late submission will be accepted for any reason.
- ALL team members must present on the "Discussion/presentation" dates. ZERO points will be given to the absentees.
- Using External Database is bonus

Phase 2:

a. **Building Data Warehouse** transforms data from your source database to the star schema you developed using SSIS packages in Visual Studio.
   Phase Deliverables:
   - Saved Packages of the transformation process on structured storage files (Queries and their Full Details: each dimension, dimension level, dimension attribute and measure specify its source in the source database)
     - **Print the Queries and their details in a document file. (8 grades – 1.5 grade for each of the four dimensions and 2 grades for the fact table)**
   - The Data Warehouse Schema Filled with Data.(Star Schema Filled with Data) **(2 grades)**

b. **OLAP to** build one cube to represent your data for analysis. **(2 grade)**
c. **Power BI** connection to your cube to develop **at least one** Report and at **least one Chart type**. **(3 grades)**